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10/582,809

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EXAMINER

ELLIOTT, CANDICE K

ART UNIT

PAPER NUMBER

4114

MAIL DATE

DELIVERY MODE

08/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/582,809	Applicant(s) MORI ET AL.	
	Examiner Candice K. Elliott	Art Unit 4114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 365(b), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “27” has been used to designate both the flange-shaped attaching portion in Figs. 1, 15, and 22 and the engaging pieces in Figs. 16 and 17. Also, reference character “15” has been used to designate both the control pinching portion in Figs. 2-5, 13, and 17 and the control knobs in Figs. 18 and 19

Figure 25 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to because the line for element 27 in Fig. 1 appears to be pointing to the wrong area if it is intended to be directed to the flange-shaped attaching portion.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

p. 13, line 20: to be consistent with the language in the claims, it would seem a good idea to change "rotating operation guide groove" to "--passage of rotation--".

p. 15, line 12: reference number 29 is not the number used in the drawings for the flange-shaped attaching portion; however, the number 27 that is used is also used for another element. And because 29 is also used for the elastic urging elements in Figs. 22 and 23, it is recommended that a new (and unused) reference number be chosen for the flange-shaped attaching portion and appropriate corrections be made in the relevant drawings.

p. 17-18 (discussion of the second embodiment): it is unclear how the "urging device" in the form of the sealing member (4D) achieves the action claimed. It does not appear from either the description or the drawings that elements 12 and 7 would be "urged together" by the elastic restoring action of the seal. A more detailed explanation would help in understanding.

p. 20, lines 5-12, and p. 26, lines 9-16, appear to have been copied and pasted from an earlier occurrence, but element numbers 22 and 23 have not been changed to reflect the respective figures under discussion.

p. 22, line 8: since the embodiment being discussed only has one semicircular split lock member per control member, the phrase "circumferentially divided in two and dispersedly" is confusing and unnecessary.

p. 22, line 14: "section 2" should be changed to "--section 1--"

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p. 23, line 30: since all engaging pieces on one control member must move together, it seems that “successively” should be changed to --concurrently--. Alternatively, if the control members are inserted separately rather than all at once, the sentence beginning on line 29 could delete “The engaging pieces 27 of each” and begin with --Each control member 10 is--

p. 26, line 26: it appears that “pair of a semi-circular” should be deleted

p. 27, line 7: reference number 15 is also used for the pinching control pieces. A different reference number should be used for the control knobs and appropriate corrections made in the relevant drawings.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

All assumptions expressed in this section are for the purposes of this Office action only.

Claim 1 (p. 35, line 7): “provided in” is ambiguous and does not clearly identify where or how the lock member is located relative to the inner circumferential surface. It was assumed that “in” meant --interior to--

Claim 1 (p. 35, line 16-17): “a specific position” is vague and could mean any arbitrarily chosen position. The examiner assumed that this was intended to be --a specific attachment/detachment operating position-- which was further assumed to mean the circumferential position of the lock member allowing it to be inserted or removed from the passage of rotation.

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Claim 2 (p. 35, line 21): the word “close” is a subjective term and does not distinctly indicate the position of the stopper wall portion disclosed in the specification. The examiner interpreted the location of the stopper wall very broadly.

Claim 3 (p. 36, line 3): It is unclear what is meant by “dispersedly formed”. In dependent claim 7, it could mean that a plurality of split lock pieces are formed at dispersed locations on a single control member. However, in dependent claim 8 (an embodiment illustrated in Fig. 18), it could mean that each single control member with a single lock piece is dispersed around the circumference of the passage of rotation. In this Office action, it is broadly interpreted to mean either case.

Claim 4 (p. 36, line 15): “as engaging portions larger than an inner diameter of the” is unclear. A suggested alternative phrasing, and the one assumed in examining this claim is --with engaging portions extending beyond an inner diameter of the--

Claim 5 (p. 36, line 19): it is not clear which part of the control member is considered an “outward end portion.” Outward from which direction? Which end? The position of the flange portions on the control members is broadly interpreted in this Office action.

Claim 6 (p. 36, line 25): “control pinching portion” is vague and not well defined in the specification. The examiner understands it to mean a portion of the control member that may be held or pinched in order to better manipulate the control member. The indefiniteness of “outward end portion” is rejected on the same grounds as for claim 5 above and is also broadly interpreted.

Claim 7 (p. 36, line 29): “each control member includes a pair of semicylindrical elements” [emphasis added] is confusing. It is assumed that the phrase above is intended to mean --each control member comprises a semicylindrical element--.

Claim 8 (p. 37, lines 5-9): the last four lines of the claim are confusing and seem somewhat redundant. A slight rearrangement of words would help make it somewhat clearer. It is suggested that the

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phrase beginning on line 7 and continuing through line 9 including "to have a pipe section" be moved to line 5 and inserted after "resin". It is assumed this change was made.

Claim 9 (p. 37, line 13-14): there is no antecedent basis for "the removing side" and it is assumed that the antecedent for "the rotating operation passage" is "a passage of rotation" from claim 1. Beyond that, the claim is extremely hard to follow and understand. The following suggested replacement wording for claim 9 indicates how the claim has been interpreted for the purposes of examination.

Replacement language for claim 9: --A pipe joint construction as defined in Claim 3, further comprising a return preventive device provided for receiving the split lock pieces positioned within the passage of rotation into a receiving position wherein the split lock pieces are advanced in a pipe axis direction toward the receiving opening and also prevented or restrained from rotating toward the specific attachment/detachment operating position.--

Claim 10 (p. 37, line 23-24): to clarify the claim and rectify antecedent issues, insert --when the split lock pieces are-- after "direction" and replace "of the rotating operation passage" with --in the passage of rotation--.

Examiner's Note

Due to the confusing number of elements in this application, an Examiner's Appendix (EA) has been provided to aid in the understanding of the rejections below. The Appendix includes enlarged and annotated drawings from the primary reference, Woodling (US 2,376,566), as well as a table correlating the claimed elements in the application with the corresponding elements in Woodling. It is intended that these supplements will be helpful references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 2, as best understood by the examiner (see 35 USC § 112 rejections above), are rejected under 35 U.S.C. 102(b) as being anticipated by Woodling (US 2,376,566).

As to claim 1, Woodling teaches a pipe joint construction comprising an elastic seal member (17) for hermetically sealing between an inner circumferential surface (annotated Fig. 4, Examiner's Appendix [EA]) of a receiving pipe section (33) and an outer circumferential surface (Fig. 4, EA) of an inserted pipe section (10) inserted into and connected to the receiving pipe section (33) in a pipe axis direction (left-right, Fig. 4),

and a lock member (left-hand radially extending portion of U-shaped member 35; Fig. 4, EA) provided interior to the inner circumferential surface (at top of groove 34) of the receiving pipe section (33) adjacent a receiving opening thereof (Fig. 2, inner perimeter of outer pipe) for preventing separating movement of the pipe sections by contacting an engaging projection (Fig. 4, EA) protruding from the outer circumferential surface of the inserted pipe section (where outer surface of 10 protrudes above the groove 36) in the pipe axis direction,

wherein the construction further comprises an attachment/detachment control device (combination of elements 35) for attaching and detaching the lock member (combination of split lock pieces, Fig. 4, EA) to/from the receiving pipe section (33) by rotating the lock member (each split lock piece individually) about the pipe axis direction relative to the receiving pipe section (33) and by moving, in the pipe axis direction, the lock member placed in a specific attachment/detachment operating position

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(when element 35/27 is aligned with 30 in Fig. 2) in a passage of rotation (34) (also, see p. 2, left column/line 70 through right column/line 10).

As to claim 2, Woodling teaches the pipe joint construction as above for claim 1, further comprising a stopper wall portion (annotated Fig. 4, EA) formed in the inner circumferential surface of the receiving pipe section (33) at a portion close to the receiving opening from a seal mounting groove (19) for receiving the elastic seal member (17) to contact an engaging projection (Fig. 4, EA) protruding from the outer circumferential surface (the groove of 10 at 36) of the inserted pipe section in the pipe axis direction, thereby to limit a maximum contracting position between the pipe sections (the stopper wall formed in the end cap of 33 limits the axial movement of 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-7, 9 and 11, as best understood by the examiner (see 35 USC § 112 rejections above), are rejected under 35 U.S.C. 103(a) as being unpatentable over Woodling (US 2,376,566).

As to claim 3, Woodling teaches a pipe joint construction as defined in claim 1 above, wherein the attachment/detachment control device (35) includes a plurality (i.e., three) of circumferentially divided control members (35) insertable and removable in the pipe axis direction through a space (Fig. 2, EA) between the outer circumferential surface of the inserted pipe section (10) and the inner

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circumferential surface of the receiving pipe section (33), and a plurality (i.e., three) of circumferentially extending split lock pieces (Fig. 4, EA) forming the lock member and dispersedly formed on the control members (each lock piece is formed on a control member and dispersed around the circumference of the inserted pipe), and the receiving pipe section (33) includes, formed adjacent a receiving opening end thereof, an attachment/detachment recess (30, Fig. 2) for allowing insertion and removal of the split lock pieces (Fig. 4, EA) in the pipe axis direction, and retainer wall portions (Figs. 2 and 4, EA) for contacting the split lock pieces (Fig. 4, EA) in the pipe axis direction when the split lock pieces inserted through the attachment/detachment recess (30) are rotated about the pipe axis direction to a predetermined attachment position (when elements 35 are not aligned with recess 30) thereby to prevent disengaging movement of the lock pieces. Woodling does not specifically teach plural recesses.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to provide the end of the receiving pipe in Woodling with additional recesses to reduce the distance any one control member needed to be moved around the inner pipe perimeter thereby reducing time of assembly.

As to claim 4, Woodling teaches wherein the split lock pieces (Fig. 4, EA) are formed on outer circumferential surfaces (bottom surface of U-shaped element 35 is the circumferential surface) of the control members (35) with engaging portions (sloped surface 38) extending beyond an inner diameter of the receiving opening of the receiving pipe section (Fig. 4, EA, bottom of retainer wall portion; Fig. 2, inner perimeter of outer pipe).

As to claim 5, Woodling teaches wherein the control members (35) include flange portions (right-hand radially extending portion of U-shaped control member 35, Fig. 4) formed at outward end portions thereof (on an outward side of the control member) for closing or substantially closing an annular space

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(as shown in Fig. 2 where control member 27 overlaps annular space between pipes) between the inner circumferential surface of the receiving pipe section (33) and the outer circumferential surface of the inserted pipe section (10).

As to claim 6, Woodling teaches wherein each control member has a control pinching portion formed on an outward end portion thereof (the opposing surfaces of the outer ends of the flange portions, i.e., where 27 is pointing in Fig. 3, is a portion that may be held or pinched to control the positioning of the control member).

As to claim 7, Woodling teaches a pipe joint construction as defined in claim 3 as above, but does not teach wherein each control member comprises a semicylindrical element to be fitted along the outer circumferential surface of the inserted pipe section.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the control elements of Woodling by connecting two or more elements together so that multiple lock pieces could be inserted into their respective recesses at the same time, thereby reducing assembly time. The minimum number of control elements allowing assembly at the point of connection is two. (A closed circular member would need to be placed over an opposite end of the pipe section, which could be at a distance or already connected to something else). Therefore, it would further have been obvious to one of ordinary skill in the art as a matter of design choice to design each control member as a semicylindrical element to be fitted along the outer circumferential surface of the inserted pipe section.

As to claim 9, Woodling teaches a pipe joint construction as defined in claim 3 as above, further comprising a return preventive device (combination of elements working together) provided for receiving

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the split lock pieces (Fig. 4, EA) positioned within the passage of rotation (34) into a receiving position (as shown in Fig. 4) wherein the split lock pieces are advanced in a pipe axis direction toward the receiving opening (p. 2, second column/lines 1-16) and also prevented or restrained from rotating toward the specific attachment/detachment operating position (with set screws 41).

As to claim 11, Woodling teaches the limitations of claims 9 above, further comprising an urging device (set screws 41) provided for moving and urging the split lock pieces (Fig. 4, EA) to the receiving position (shown in Fig. 4) of the return preventive device (defined in claim 9 above) (also see p. 2, column 2/lines 10-16).

Claim 10, as best understood by the examiner (see 35 USC § 112 rejections above), is rejected under 35 U.S.C. 103(a) as being unpatentable over Woodling (US 2,376,566) in view of Smith (US 2,778,662).

Woodling teaches the limitations of claim 9 as above, wherein the return preventive device (as defined above) includes split lock pieces into which part of the receiving pipe section (at surface 37) is relatively engageable (in a wedge like connection) in the pipe axis direction when the split lock pieces are in the predetermined attachment position (as in Fig. 2 when control elements 27 are not aligned with recesses 30) in the passage of rotation (34). Woodling does not teach recesses formed in the split lock pieces into which part of the receiving pipe section is relatively engageable in the pipe axis direction.

Smith discloses two common techniques for mating facing surfaces. One shows the joining of sloped surfaces to form a wedge-like connection (Fig. 23) and an alternate embodiment shows the surfaces forming a tongue-in-groove type connection (Fig. 9). While either may be used to create a tight

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and secure connection, the tongue-in-groove connection of Smith has sealing advantages under hydraulic pressure. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wedge-like mating surfaces of Woodling's split lock pieces with the tongue-in-groove type of mating surfaces taught by Smith such that recesses were formed in the split lock pieces into which tongue-like parts of the receiving pipe section would be relatively engageable in the pipe-axis direction in order to add rigidity to the connection and make it more secure.

Claim 8, as best understood by the examiner (see 35 USC § 112 rejections above), is rejected under 35 U.S.C. 103(a) as being unpatentable over Woodling (US 2,376,566) in view of Owen et al. (US 7,207,606).

Woodling teaches a pipe joint construction as defined in claim 3 as above, wherein the control members (35) and the split lock pieces (left-hand radially extending portion of U-shaped member 35; Fig. 4, EA) have a circumferential width (dotted line at 26 in Fig. 2) to pass through the attachment/detachment recesses (30, Fig. 2) in the receiving pipe section (33). Woodling does not teach wherein space limiting members made of a synthetic resin to have a circumferential width to pass through the attachment/detachment recesses in the receiving pipe section are disposed between adjacent control members inserted into the receiving pipe section through the attachment/detachment recesses in the pipe axis direction.

Owen et al. teaches space limiting members (480, Fig. 5) made of a synthetic resin (column 7/lines 38-40) disposed between adjacent control members (470) inserted into the receiving pipe section (200 and 300 together, Fig. 1; note that 430 represents 470 and 480 combined), though the space limiting members are not sized to be able to pass through a recess in the receiving pipe. The purpose of the space limiting members is to retain the control members in desired relative positions to each other.

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At the time of the invention, it would have been obvious to one of ordinary skill in the art to provide the modified pipe joint construction of Woodling with space limiting members made of a synthetic resin as taught by Owen et al. in order to more easily position a plurality of control members within the passage of rotation. Further, it would have been obvious to one of ordinary skill in the art to have made the space limiting members to have a circumferential width to pass through the attachment/detachment recesses in the receiving pipe section because they could not otherwise have been used for their intended purpose.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Candice K. Elliott whose telephone number is (571) 270-5524. The examiner can normally be reached on Monday to Thursday, 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Nguyen can be reached on (571) 272-6952. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Q. Nguyen/
Supervisory Patent Examiner, Art Unit 4114

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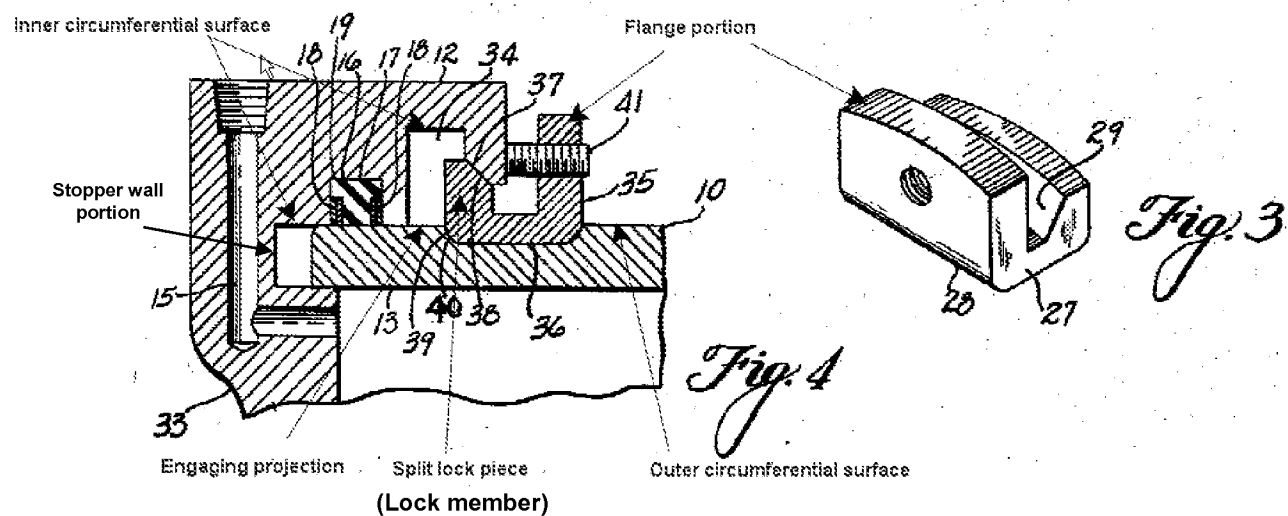
/C. K. E./

Examiner, Art Unit 4114

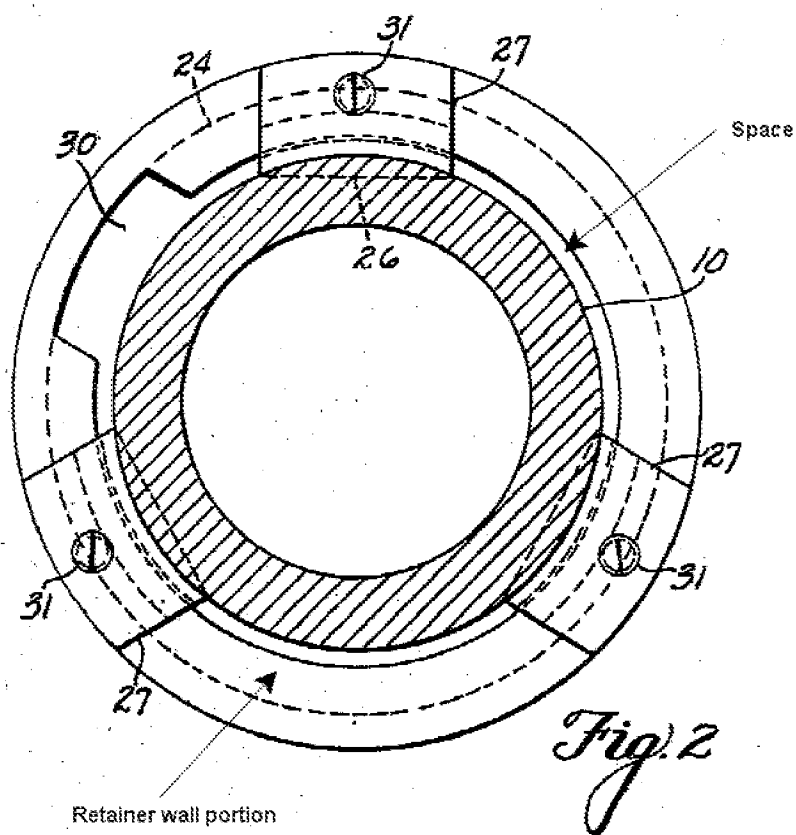
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Examiner's Appendix (EA)		
	Applicant	Woodling (US 2,376,566)
Element name	Element number	Element number
Claim 1		
Elastic seal member	4	17
Inner circumferential surface	1a	Fig. 4 of EA
Receiving pipe section	1	33
Outer circumferential surface	2a	Fig. 4 of EA
Inserted pipe section	2	10
Pipe axis direction	X	left-right in Fig. 4
Lock member (interior to 1a)	7	combination of split lock pieces working together, see Fig. 4 EA
Receiving opening	--	Fig. 2, inner perimeter of outer pipe
Engaging projection (on 2a)	5	Fig. 4 of EA
Attachment/detachment control device	A	combination of elements 35 working together
Specific attachment/detachment operating position	*	Fig. 2, when control member 27 is aligned with recess 30
Passage of rotation	13	34
Claim 2		
Stopper wall portion (on 1a)	6	Fig. 4 of EA
Seal mounting groove	3	19
Claim 3		
Control members	10	35
Space	S	Fig. 2, between inner and outer pipes
Split lock pieces	7A	Fig. 4 of EA
Attachment/detachment recesses	11	30
Retainer wall portions	12	Fig. 2 and Fig. 4 of EA
Predetermined attachment position	*	Fig. 2, as shown, when control member 27 is not aligned with recess 30
Claim 4		
Outer circumferential surface (of 10)	--	Fig. 4 of EA
Engaging portions	7A	surface 38
Claim 5		
Flange portions (of 10)	14	Figs. 3 and 4 in EA
Outward end portions (of 10)	?	broadly interpreted
Claim 6		
Control pinching portion	15	broadly interpreted
Claim 7		
Semi-cylindrical element (=10)	10, Fig. 4	---
Claim 8		
Circumferential width	--	dotted line at 26 in Fig. 2
Space-limiting members (resin)	28, Fig. 18	
Claim 9		
Return preventive device	C	combination of elements working together
Receiving positon	*	when lock piece is engaged with a portion of receiving pipe section, as shown in Fig. 4
Claim 10		
Recesses (in 7A)	24, Fig. 12	---
Claim 11		
Urging device	D	41

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Analogous element numbers between Figures	
Fig. 4	Figs. 2, 3
34	24
35	27
36	26
38	29
39	28
41	31



Detail from Woodling (US 2,376,566)